This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1(currently amended). A process for preparing an optical waveguide component from acrylate/titanium alkoxide composite material, which comprises the following steps:

(a) reacting acrylate with titanium alkoxide in the presence of silicon coupling agent and water by an acid-free solgel method to form a precursor solution of an acrylate/titanium alkoxide composite material;

(b) coating the resultant precursor solution on a silicon chip on which a silicon dioxide has been previous coated, and then evaporating solvent from the solution at a temperature from 50 to 200°C to form a acrylate/titanium alkoxide composite material film;

(c) forming a channel on the resultant film by lithographic method;

(d) repeating the step (a) except using a ratio of acrylate and titanium alkoxide different from that used in step (a) to form a precursor solution having a ~~reflective~~ refractive index less than the precursor solution obtained from step (a); and

(e) applying the precursor solution obtained in step (d) on the composite material film having channels in step (c), evaporating solvent at a temperature of from 70 to 90°C, and then baking at a temperature of from 50 to 200°C, to ~~produced~~ produce the optical waveguide component of acrylate/titanium alkoxide composite material.

2(original). The process according to claim 1, wherein in the steps (a) and (d) the mole ratio of the coupling agent to total mole of the acrylate monomer and the coupling agent is from 0.1 to 0.5.

3(original). The process according to claim 1, wherein in the steps (a) and (d) the mole ratio of water to the titanium alkoxide is from 0.5 to 1.5.

4(original). The process according to claim 1, wherein in the steps (a) and (d) the amount of the titanium alkoxide is from 1 to 90% by weight based on the weight of the precursor solution.

5(original). The process according to claim 1, wherein in the steps (a) and (d) the acrylate monomer is selected from one or more acrylate of formula $CH_2C(R_1)COOR_2$ and $CH_2C(R_3)COOR_f$, in which R_1, R_2, and R_3 independently represent a C_{1-12} alkyl group or a C_{3-12} cycloalkyl group, and R_f represents a C_{1-6} haloalkyl group.

6(original). The process according to claim 5, wherein the acrylate monomer is selected from the group consisting of methyl acrylate, methyl methacrylate, ethyl acrylate, ethyl methacrylate, propyl acrylate, propyl methacrylate, butyl acrylate, butyl methacrylate, cyclohexyl acrylate, cycohexyl methacrylate, bornyl acrylate, brnyl methacrylate, isobornyl acrylate, isobornyl methacrylate, adamantanyl acrylate, adamantanyl methacrylate, trifluoromethyl acrylate, trifluoromethyl methacrylate, hexafluoropropyl acrylate, hexafluoropropyl methacrylate, and a combination thereof.

7(original). The process according to claim 1, wherein in the steps (a) and (d) the silicon coupling agent has the following formula:

$$(CH_2=CR\text{-}COOR_4)_x\text{-}Si(OR)_{4-x}$$

wherein R represents a C_{1-6} alkyl group, R_4 represents a C_{1-6} alkylene group, and x represents an integer of from 1 to 4.

8(original). The process according to claim 7, wherein the silicon couping agent is selected from the group consisting of 2-trimethoxysilylethyl methacrylate, 2-trimethoxysilylethyl acrylate, 2-triethoxysilylethyl methacrylate, 2-triethoxysilylethyl

acrylate, 3-trimethoxysilylpropyl methacrylate, 3-trimethoxysilylpropyl acrylate, 3-triethoxysilylpropyl methacrylate, 3-triethoxysilylpropyl acrylate, 4-trimethoxysilylbutyl methacrylate, 4-trimethoxysilylbutyl acrylate, 4-triethoxysilylbutyl methacrylate, 4-triethoxysilylbutyl acrylate, and a combination thereof.

9(original). The process according to claim 1, wherein in the steps (a) and (d) the titanium alkoxide is titanium tetra-n-butoxide ($Ti(n\text{-}BuO)_4$).

10(currently amended). The process according to claim 1, wherein the steps (a) and (d) [[is]] <u>are</u> carried out in the presence of a thermal initiator.

11(original). The process according to claim 10, wherein the thermal initiator is selected from the group consisting of 2,2-azobisisobutyronitrile, benzoyl peroxide, acetyl peroxide, lauroyl peroxide, and a combination thereof.